

Day : Wednesday

Date: 3/1/2006  
Time: 20:00:53**PALM INTRANET**

## Inventor Information for 10/678927

Inventor Name	City	State/Country
GOULD, STEVEN A.	HIGHLAND PARK	ILLINOIS
DEWOSKIN, RICHARD E.	ST. CHARLES	ILLINOIS
DOUBLEDAY, MARC D.	CARY	ILLINOIS
HIDES, GEORGE A.	CHICAGO	ILLINOIS

Appln Info	Contents	Petition Info	Atty/Agent Info	Continuity Data	Foreign Data
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Search Another: Application#   or Patent#

PCT /  /   or PG PUBS #

Attorney Docket #

Bar Code #

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Day : Wednesday

Date: 3/1/2006  
Time: 20:01:02

**PALM INTRANET**
**Inventor Name Search Result**

Your Search was:

Last Name = GOULD

First Name = STEVEN

Application#	Patent#	Status	Date Filed	Title	Inventor Name
<a href="#">09638471</a>	<a href="#">6323320</a>	150	08/14/2000	Acellular red blood cell substitute	GOULD, STEVEN A.
<a href="#">09995203</a>	<a href="#">6552173</a>	150	11/27/2001	ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">10348579</a>	<a href="#">6914127</a>	150	01/21/2003	ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">10678927</a>	Not Issued	30	10/03/2003	Method for treating patients with massive blood loss	GOULD, STEVEN A.
<a href="#">60415935</a>	Not Issued	159	10/03/2002	Method for treating patients with massive blood loss	GOULD, STEVEN A.
<a href="#">06876689</a>	<a href="#">4826811</a>	150	06/20/1986	ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">07315130</a>	Not Issued	166	02/23/1989	ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">07345416</a>	Not Issued	166	04/28/1989	ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">07616727</a>	<a href="#">5194590</a>	150	11/21/1990	ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">07896734</a>	Not Issued	166	06/09/1992	ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">08031563</a>	<a href="#">6133425</a>	150	03/15/1993	ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">08203505</a>	<a href="#">5464814</a>	150	02/28/1994	ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">08484942</a>	<a href="#">5747649</a>	150	06/07/1995	ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">08486712</a>	Not Issued	161	06/07/1995	AN ACELLULAR RED BLOOD CELL SUBSTITUTE	GOULD, STEVEN A.
<a href="#">07004052</a>	<a href="#">4736936</a>	150	01/16/1987	HANKY DELIVERY SYSTEM	GOULD, STEVEN G.
<a href="#">07201583</a>	Not	161	06/02/1988	APPARATUS AND METHOD	GOULD, STEVEN

	Issued			FOR STACKING	G.
<a href="#">07414681</a>	<a href="#">5040663</a>	150	09/29/1989	APPARATUS AND METHOD FOR STACKING	GOULD, STEVEN G.
<a href="#">07552766</a>	<a href="#">4995141</a>	150	07/16/1990	METHOD AND APPARATUS FOR FACILITATING PRODUCT CHANGEOVER IN THE MANUFACTURE OF FLUFF PADS FOR DISPOSABLE DIAPERS	GOULD, STEVEN G.
<a href="#">60575494</a>	Not Issued	159	05/28/2004	Method and system for cost and risk management	GOULD, STEVEN J.
<a href="#">07203131</a>	<a href="#">4823912</a>	150	06/06/1988	MULTIPURPOSE LADDER FIXTURE	GOULD, STEVEN P.

Inventor Search Completed: No Records to Display.

Search Another: Inventor	Last Name	First Name	<input type="button" value="Search"/>
	<input type="text" value="GOULD"/>	<input type="text" value="STEVEN"/>	

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Day : Wednesday

Date: 3/1/2006  
Time: 20:01:17

**PALM INTRANET**
**Inventor Name Search Result**

Your Search was:

Last Name = DEWOSKIN

First Name = RICHARD

Application#	Patent#	Status	Date Filed	Title	Inventor Name
<a href="#">10124941</a>	Not Issued	161	04/18/2002	Stabilized hemoglobin solutions	DEWOSKIN, RICHARD
<a href="#">10767516</a>	Not Issued	30	01/29/2004	Polymerized hemoglobin solutions having reduced amounts of tetramer and method for preparing	DEWOSKIN, RICHARD
<a href="#">11231921</a>	Not Issued	30	09/21/2005	Stabilized hemoglobin solutions	DEWOSKIN, RICHARD
<a href="#">60284651</a>	Not Issued	159	04/18/2001	Flexible container system for aqueous materials	DEWOSKIN, RICHARD
<a href="#">60284664</a>	Not Issued	159	04/18/2001	Method for preserving a hemoglobin blood substitute	DEWOSKIN, RICHARD
<a href="#">60443436</a>	Not Issued	159	01/29/2003	Polymerized hemoglobin solutions having reduced amounts of tetramer and method for preparing	DEWOSKIN, RICHARD
<a href="#">60014389</a>	Not Issued	159	03/28/1996	METHODS AND APPARATUS FOR PREPARING AN ACELLULAR RED BLOOD CELL SUBSTITUTE	DEWOSKIN, RICHARD E
<a href="#">09995203</a>	<a href="#">6552173</a>	150	11/27/2001	ACELLULAR RED BLOOD CELL SUBSTITUTE	DEWOSKIN, RICHARD E.
<a href="#">10274099</a>	Not Issued	161	10/17/2002	Method and apparatus for preparing an acellular read blood cell substitute	DEWOSKIN, RICHARD E.
<a href="#">10348579</a>	<a href="#">6914127</a>	150	01/21/2003	ACELLULAR RED BLOOD CELL SUBSTITUTE	DEWOSKIN, RICHARD E.
<a href="#">10678927</a>	Not Issued	30	10/03/2003	Method for treating patients with massive blood loss	DEWOSKIN, RICHARD E.
<a href="#">10993228</a>	Not Issued	30	11/19/2004	Method and apparatus for preparing an acellular red blood cell substitute	DEWOSKIN, RICHARD E.

<a href="#">60415935</a>	Not Issued	159	10/03/2002	Method for treating patients with massive blood loss	DEWOSKIN, RICHARD E.
<a href="#">07896734</a>	Not Issued	166	06/09/1992	ACELLULAR RED BLOOD CELL SUBSTITUTE	DEWOSKIN, RICHARD E.
<a href="#">08203505</a>	<a href="#">5464814</a>	150	02/28/1994	ACELLULAR RED BLOOD CELL SUBSTITUTE	DEWOSKIN, RICHARD E.

Inventor Search Completed: No Records to Display.

	<b>Last Name</b>	<b>First Name</b>	
<b>Search Another: Inventor</b>	<input type="text" value="DEWOSKIN"/>	<input type="text" value="RICHARD"/>	<input type="button" value="Search"/>

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Day : Wednesday

Date: 3/1/2006

Time: 20:01:28

PALM INTRANET

**Inventor Name Search Result**

Your Search was:

Last Name = DOUBLEDAY

First Name = MARC

Application#	Patent#	Status	Date Filed	Title	Inventor Name
<a href="#">10124941</a>	Not Issued	161	04/18/2002	Stabilized hemoglobin solutions	DOUBLEDAY, MARC
<a href="#">10767516</a>	Not Issued	30	01/29/2004	Polymerized hemoglobin solutions having reduced amounts of tetramer and method for preparing	DOUBLEDAY, MARC
<a href="#">11231921</a>	Not Issued	30	09/21/2005	Stabilized hemoglobin solutions	DOUBLEDAY, MARC
<a href="#">60284651</a>	Not Issued	159	04/18/2001	Flexible container system for aqueous materials	DOUBLEDAY, MARC
<a href="#">60284664</a>	Not Issued	159	04/18/2001	Method for preserving a hemoglobin blood substitute	DOUBLEDAY, MARC
<a href="#">60443436</a>	Not Issued	159	01/29/2003	Polymerized hemoglobin solutions having reduced amounts of tetramer and method for preparing	DOUBLEDAY, MARC
<a href="#">10274099</a>	Not Issued	161	10/17/2002	Method and apparatus for preparing an acellular red blood cell substitute	DOUBLEDAY, MARC D.
<a href="#">10678927</a>	Not Issued	30	10/03/2003	Method for treating patients with massive blood loss	DOUBLEDAY, MARC D.
<a href="#">10993228</a>	Not Issued	30	11/19/2004	Method and apparatus for preparing an acellular red blood cell substitute	DOUBLEDAY, MARC D.
<a href="#">60415935</a>	Not Issued	159	10/03/2002	Method for treating patients with massive blood loss	DOUBLEDAY, MARC D.
<a href="#">60761663</a>	Not Issued	20	01/24/2006	Polymerized hemoglobin media and its use in isolation and transplantation of islet cells	DOUBLEDAY, MARC D.
<a href="#">09155419</a>	<a href="#">6498141</a>	150	05/10/1999	METHOD AND APPARATUS FOR PREPARING AN ACELLULAR RED BLOOD CELL SUBSTITUTE	DOUBLEDAY, MARC D.

## Inventor Search Completed: No Records to Display.

---

	Last Name	First Name	
<b>Search Another: Inventor</b>	<input type="text" value="DOUBLEDAY"/>	<input type="text" value="MARC"/>	<input type="button" value="Search"/>

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Day : Wednesday

Date: 3/1/2006  
Time: 20:01:37**Inventor Name Search Result**

Your Search was:

Last Name = HIDES

First Name = GEORGE

Application#	Patent#	Status	Date Filed	Title	Inventor Name
<a href="#">10678927</a>	Not Issued	30	10/03/2003	Method for treating patients with massive blood loss	HIDES, GEORGE A.
<a href="#">60415935</a>	Not Issued	159	10/03/2002	Method for treating patients with massive blood loss	HIDES, GEORGE A.

**Inventor Search Completed:** No Records to Display.

<b>Search Another: Inventor</b>	<b>Last Name</b>	<b>First Name</b>	<b>Search</b>
	<input type="text" value="HIDES"/>	<input type="text" value="GEORGE"/>	

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```

=> File .Biotech
=> s (Red Blood Cell# or RBC)
L1      195015 (RED BLOOD CELL# OR RBC)

=> s (Hemoglobin# or Hb)
L2      408738 (HEMOGLOBIN# OR HB)

=> s L1 and L2
L3      32727 L1 AND L2

=> s l3 and (polymer? hemoglobin)
L4      244 L3 AND (POLYMER? HEMOGLOBIN)

=> s l4 and (acellular solution or tetramer free or stroma free)
L5      88 L4 AND (ACELLULAR SOLUTION OR TETRAMER FREE OR STROMA FREE)

=> s l5 and (polymer? or blood substitut? or plasma exapnd?)
L6      88 L5 AND (POLYMER? OR BLOOD SUBSTITUT? OR PLASMA EXAPND?)

=> s l6 and (treat? or therapeut? or prevent? or ameliorat?)
L7      86 L6 AND (TREAT? OR THERAPEUT? OR PREVENT? OR AMELIORAT?)

=> s l7 and (ischem? or anem? or bleed?)
L8      57 L7 AND (ISCHEM? OR ANEM? OR BLEED?)

=> s l8 and (disorder or shock or circulatory collapse or blood loss or surg?)
L9      55 L8 AND (DISORDER OR SHOCK OR CIRCULATORY COLLAPSE OR BLOOD
      LOSS OR SURG?)

=> s l9 and (blood pressure# or arterial pressure#)
      2 FILES SEARCHED...
L10     40 L9 AND (BLOOD PRESSURE# OR ARTERIAL PRESSURE#)

=> s l10 and (polymerized hemoglobin solution)
L11     20 L10 AND (POLYMERIZED HEMOGLOBIN SOLUTION)

=> s l11 and (massive blood loss)
L12     2 L11 AND (MASSIVE BLOOD LOSS)

```

```

=> d l12 1-2 bib ab

```

```

L12  ANSWER 1 OF 2  USPATFULL on STN
AN    2004:88900  USPATFULL
TI    Method for treating patients with massive
      blood loss
IN    Gould, Steven A., Highland Park, IL, UNITED STATES
      DeWoskin, Richard E., St. Charles, IL, UNITED STATES
      Doubleday, Marc D., Cary, IL, UNITED STATES
      Hides, George A., Chicago, IL, UNITED STATES
PA    Northfield Laboratories, Inc., Evanston, IL (U.S. corporation)
PI    US 2004067876      A1    20040408
AI    US 2003-678927      A1    20031003 (10)
PRAI  US 2002-415935P      20021003 (60)
DT    Utility
FS    APPLICATION
LREP  MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE
      3200, CHICAGO, IL, 60606
CLMN  Number of Claims: 47
ECL    Exemplary Claim: 1
DRWN  4 Drawing Page(s)
LN.CNT 1013
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB    Methods for treating a mammal suffering from massive
      blood loss comprising administering to the mammal a
      polymerized hemoglobin solution.

```

L12 ANSWER 2 OF 2 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN

AN 2004-304610 [28] WPIDS

DNC C2004-115725

TI **Treatment** of mammal suffering from life threatening level of **red blood cell hemoglobin** as result of **blood loss**, comprises administration of **polymerized hemoglobin solution** to mammal.

DC B04

IN DEWOSKIN, R E; DOUBLEDAY, M D; GOULD, S A; HIDES, G A

PA (NORT-N) NORTHFIELD LAB

CYC 106

PI US 2004067876 A1 20040408 (200428)\* 15

WO 2004037279 A1 20040506 (200430) EN

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS

LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK

DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR

KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH

PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC

VN YU ZA ZM ZW

AU 2003272827 A1 20040513 (200468)

NO 2005001390 A 20050530 (200545)

EP 1553968 A1 20050720 (200547) EN

R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV

MC MK NL PT RO SE SI SK TR

JP 2006502231 W 20060119 (200607) 28

ADT US 2004067876 A1 Provisional US 2002-415935P 20021003, US 2003-678927

20031003; WO 2004037279 A1 WO 2003-US31377 20031003; AU 2003272827 A1 AU

2003-272827 20031003; NO 2005001390 A WO 2003-US31377 20031003, NO

2005-1390 20050316; EP 1553968 A1 EP 2003-755029 20031003, WO 2003-US31377

20031003; JP 2006502231 W WO 2003-US31377 20031003, JP 2004-546786

20031003

FDT AU 2003272827 A1 Based on WO 2004037279; EP 1553968 A1 Based on WO

2004037279; JP 2006502231 W Based on WO 2004037279

PRAI US 2002-415935P 20021003; US 2003-678927 20031003

AB US2004067876 A UPAB: 20040429

NOVELTY - **Treatment** of a mammal suffering from a life threatening level of **red blood cell**

**hemoglobin (RBC Hb)** as the result of

**blood loss**, comprises administering a

**polymerized hemoglobin solution** to the mammal.

ACTIVITY - Antianemic; Vasotropic. The dose of PolyHeme (RTM) received by 171 patients was 50-100 g. The maximum rate of infusion was approx. 2 units (1 L) per minute in uncontrolled hemorrhage. The maximum plasma **hemoglobin** concentration was 8 g/dL in a single patient who received 8 units of PolyHeme. The maximum mean plasma **hemoglobin** concentration was 5.9 plus or minus 1.1 g/dL in the group of patient who received 20 units of PolyHeme, reflecting the equilibrium between ongoing **blood loss** and replacement. There was no mortality increase as the **RBC hemoglobin** concentration fell below 3 g/dL.

MECHANISM OF ACTION - None given.

USE - The method is for **treating** a mammal suffering from a life threatening level of **red blood cell**

**hemoglobin (RBC Hb)** as the result of

**massive blood loss**. The method

**prevents anemia**, irreversible **ischemia**, or

**hypovolemic shock** in a patient suffering from **massive**

**blood loss**. (All claimed)

ADVANTAGE - The administration of the **hemoglobin** solution

maintains a mean circulating **hemoglobin** level greater than 5

g/d, and maintains **arterial pressure** above 60 mmHg.

The solution avoids the toxicities associated with vasoconstriction, and renal, pancreatic, gastrointestinal and cardiac dysfunction.

DESCRIPTION OF DRAWING(S) - The figure is a graph depicting the mean  
( plus or minus SD) total plasma **hemoglobin** concentration versus  
dose of **polymerized hemoglobin solution**.  
Dwg.1/4

=> s Gould, S?/au  
L13 2785 GOULD, S?/AU

=> s l10 and l13  
L14 10 L10 AND L13

=> s DeWoskin, R?/au  
L15 105 DEWOSKIN, R?/AU

=> s l10 and l15  
L16 6 L10 AND L15

=> s Doubleday, M?/au  
L17 48 DOUBLEDAY, M?/AU

=> s l10 and l17  
L18 5 L10 AND L17

=> s Hides, G?/au  
L19 7 HIDES, G?/AU

=> s l10 and l19  
L20 2 L10 AND L19

=> s l14 and l16  
L21 4 L14 AND L16

=> s l18 and l20  
L22 2 L18 AND L20

=> s l21 and l22  
L23 2 L21 AND L22

=> d l23 1-2 bib ab

L23 ANSWER 1 OF 2 USPATFULL on STN  
AN 2004:88900 USPATFULL  
TI Method for **treating** patients with massive **blood loss**  
IN Gould, Steven A., Highland Park, IL, UNITED STATES  
DeWoskin, Richard E., St. Charles, IL, UNITED STATES  
Doubleday, Marc D., Cary, IL, UNITED STATES  
Hides, George A., Chicago, IL, UNITED STATES  
PA Northfield Laboratories, Inc., Evanston, IL (U.S. corporation)  
PI US 2004067876 A1 20040408  
AI US 2003-678927 A1 20031003 (10)  
PRAI US 2002-415935P 20021003 (60)  
DT Utility  
FS APPLICATION  
LREP MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE  
3200, CHICAGO, IL, 60606  
CLMN Number of Claims: 47  
ECL Exemplary Claim: 1  
DRWN 4 Drawing Page(s)  
LN.CNT 1013  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB Methods for **treating** a mammal suffering from massive  
**blood loss** comprising administering to the mammal a  
**polymerized hemoglobin solution**.

L23 ANSWER 2 OF 2 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN  
AN 2004-304610 [28] WPIDS  
DNC C2004-115725  
TI **Treatment** of mammal suffering from life threatening level of  
**red blood cell hemoglobin** as result  
of **blood loss**, comprises administration of  
**polymerized hemoglobin** solution to mammal.  
DC B04  
IN DEWOSKIN, R E; DOUBLEDAY, M D; GOULD, S A;  
HIDES, G A  
PA (NORT-N) NORTHFIELD LAB  
CYC 106  
PI US 2004067876 A1 20040408 (200428)\* 15  
WO 2004037279 A1 20040506 (200430) EN  
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS  
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W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR  
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH  
PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC  
VN YU ZA ZM ZW  
AU 2003272827 A1 20040513 (200468)  
NO 2005001390 A 20050530 (200545)  
EP 1553968 A1 20050720 (200547) EN  
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV  
MC MK NL PT RO SE SI SK TR  
JP 2006502231 W 20060119 (200607) 28  
ADT US 2004067876 A1 Provisional US 2002-415935P 20021003, US 2003-678927  
20031003; WO 2004037279 A1 WO 2003-US31377 20031003; AU 2003272827 A1 AU  
2003-272827 20031003; NO 2005001390 A WO 2003-US31377 20031003, NO  
2005-1390 20050316; EP 1553968 A1 EP 2003-755029 20031003, WO 2003-US31377  
20031003; JP 2006502231 W WO 2003-US31377 20031003, JP 2004-546786  
20031003  
FDT AU 2003272827 A1 Based on WO 2004037279; EP 1553968 A1 Based on WO  
2004037279; JP 2006502231 W Based on WO 2004037279  
PRAI US 2002-415935P 20021003; US 2003-678927 20031003  
AB US2004067876 A UPAB: 20040429  
NOVELTY - **Treatment** of a mammal suffering from a life  
threatening level of **red blood cell**  
**hemoglobin (RBC Hb)** as the result of  
**blood loss**, comprises administering a  
**polymerized hemoglobin** solution to the mammal.  
ACTIVITY - Antianemic; Vasotropic. The dose of PolyHeme (RTM)  
received by 171 patients was 50-100 g. The maximum rate of infusion was  
approx. 2 units (1 L) per minute in uncontrolled hemorrhage. The maximum  
plasma **hemoglobin** concentration was 8 g/dL in a single patient  
who received 8 units of PolyHeme. The maximum mean plasma  
**hemoglobin** concentration was 5.9 plus or minus 1.1 g/dL in the  
group of patient who received 20 units of PolyHeme, reflecting the  
equilibrium between ongoing **blood loss** and  
replacement. There was no mortality increase as the RBC  
**hemoglobin** concentration fell below 3 g/dL.  
MECHANISM OF ACTION - None given.  
USE - The method is for **treating** a mammal suffering from a  
life threatening level of **red blood cell**  
**hemoglobin (RBC Hb)** as the result of massive  
**blood loss**. The method **prevents anemia**  
, irreversible **ischemia**, or hypovolemic **shock** in a  
patient suffering from massive **blood loss**. (All  
claimed)  
ADVANTAGE - The administration of the **hemoglobin** solution  
maintains a mean circulating **hemoglobin** level greater than 5  
g/d, and maintains **arterial pressure** above 60 mmHg.  
The solution avoids the toxicities associated with vasoconstriction, and

renal, pancreatic, gastrointestinal and cardiac dysfunction.

DESCRIPTION OF DRAWING(S) - The figure is a graph depicting the mean ( plus or minus SD) total plasma **hemoglobin** concentration versus dose of **polymerized hemoglobin** solution.

Dwg.1/4

=> d l14 1-10 bib ab

L14 ANSWER 1 OF 10 USPATFULL on STN

AN 2004:88900 USPATFULL

TI Method for **treating** patients with massive **blood loss**

IN **Gould, Steven A.**, Highland Park, IL, UNITED STATES  
DeWoskin, Richard E., St. Charles, IL, UNITED STATES  
Doubleday, Marc D., Cary, IL, UNITED STATES  
Hides, George A., Chicago, IL, UNITED STATES

PA Northfield Laboratories, Inc., Evanston, IL (U.S. corporation)

PI US 2004067876 A1 20040408

AI US 2003-678927 A1 20031003 (10)

PRAI US 2002-415935P 20021003 (60)

DT Utility

FS APPLICATION

LREP MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE 3200, CHICAGO, IL, 60606

CLMN Number of Claims: 47

ECL Exemplary Claim: 1

DRWN 4 Drawing Page(s)

LN.CNT 1013

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods for **treating** a mammal suffering from massive **blood loss** comprising administering to the mammal a **polymerized hemoglobin** solution.

L14 ANSWER 2 OF 10 USPATFULL on STN

AN 2003:188694 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Flossmoor, IL, UNITED STATES  
DeWoskin, Richard E., Mount Prospect, IL, UNITED STATES  
Moss, Gerald S., Highland Park, IL, UNITED STATES  
**Gould, Steven A.**, Highland Park, IL, UNITED STATES  
Rosen, Arthur L., Wilmette, IL, UNITED STATES  
Sehgal, Hansa, Flossmoor, IL, UNITED STATES

PA Northfield Laboratories, Inc. (U.S. corporation)

PI US 2003130487 A1 20030710

US 6914127 B2 20050705

AI US 2003-348579 A1 20030121 (10)

RLI Continuation of Ser. No. US 2001-995203, filed on 27 Nov 2001, GRANTED, Pat. No. US 6552173 Continuation of Ser. No. US 2000-638471, filed on 14 Aug 2000, GRANTED, Pat. No. US 6323320 Continuation of Ser. No. US 1993-31563, filed on 15 Mar 1993, GRANTED, Pat. No. US 6133425 Continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, GRANTED, Pat. No. US 5194590 Continuation of Ser. No. US 1989-315130, filed on 23 Feb 1989, ABANDONED Continuation of Ser. No. US 1986-876689, filed on 20 Jun 1986, GRANTED, Pat. No. US 4826811

DT Utility

FS APPLICATION

LREP Steven J. Sarussi, McDonnell Boehnen Hulbert & Berghoff, 32nd Floor, 300 S. Wacker Drive, Chicago, IL, 60606

CLMN Number of Claims: 1

ECL Exemplary Claim: 40

DRWN 10 Drawing Page(s)

LN.CNT 898

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute

which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its use and a process for preparing  
said acellular **red blood cell** substitute.

L14 ANSWER 3 OF 10 USPATFULL on STN  
AN 2002:120018 USPATFULL  
TI Acellular **red blood cell** substitute  
IN Sehgal, Lakshman R., Flossmoor, IL, UNITED STATES  
DeWoskin, Richard E., Mount Prospect, IL, UNITED STATES  
Moss, Gerald S., Highland Park, IL, UNITED STATES  
Gould, Steven A., Highland Park, IL, UNITED STATES  
Rosen, Arthur L., Wilmette, IL, UNITED STATES  
Sehgal, Hansa, Flossmoor, IL, UNITED STATES  
PA Northfield Laboratories, Inc. (U.S. corporation)  
PI US 2002062007 A1 20020523  
US 6552173 B2 20030422  
AI US 2001-995203 A1 20011127 (9)  
RLI Continuation of Ser. No. US 2000-638471, filed on 14 Aug 2000, PATENTED  
Continuation of Ser. No. US 1993-31563, filed on 15 Mar 1993, PATENTED  
Continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, PATENTED  
Continuation of Ser. No. US 1989-315130, filed on 23 Feb 1989, ABANDONED  
Continuation of Ser. No. US 1986-876689, filed on 20 Jun 1986, PATENTED  
DT Utility  
FS APPLICATION  
LREP Steven J. Sarussi, McDonnell Boehnen Hulbert & Berghoff, 32nd Floor, 300  
S. Wacker Drive, Chicago, IL, 60606  
CLMN Number of Claims: 1  
ECL Exemplary Claim: 40  
DRWN 10 Drawing Page(s)  
LN.CNT 899  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB An a cellular **red blood cell** substitute  
which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its use and a process for preparing  
said a cellular **red blood cell** substitute.

L14 ANSWER 4 OF 10 USPATFULL on STN  
AN 2001:215159 USPATFULL  
TI Acellular **red blood cell** substitute  
IN Sehgal, Lakshman R., Cook County, IL, United States  
De Woskin, Richard E., Cook County, IL, United States  
Moss, Gerald S., Lake County, IL, United States  
Gould, Steven A., Lake County, IL, United States  
Rosen, Arthur L., Cook County, IL, United States  
Sehgal, Hansa, Cook County, IL, United States  
PA Northfield Laboratories, Inc., Evanston, IL, United States (U.S.  
corporation)  
PI US 6323320 B1 20011127  
AI US 2000-638471 20000814 (9)  
RLI Continuation of Ser. No. US 1993-31563, filed on 15 Mar 1993, now  
patented, Pat. No. US 6133425 Continuation of Ser. No. US 1990-616727,  
filed on 21 Nov 1990, now patented, Pat. No. US 5194590 Continuation of  
Ser. No. US 1989-315130, filed on 23 Feb 1989, now abandoned  
Continuation of Ser. No. US 1986-876689, filed on 20 Jun 1986, now  
patented, Pat. No. US 4826811  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Sayala, Chhaya D.  
LREP McDonnell Boehnen Hulbert & Berghoff  
CLMN Number of Claims: 13  
ECL Exemplary Claim: 1

DRWN 14 Drawing Figure(s); 10 Drawing Page(s)

LN.CNT 923

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute  
which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its use and a process for preparing  
said acellular **red blood cell** substitute.

L14 ANSWER 5 OF 10 USPATFULL on STN

AN 2000:138510 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Cook County, IL, United States  
De Woskin, Richard E., Cook County, IL, United States  
Moss, Gerald S., Lake County, IL, United States  
Gould, Steven A., Lake County, IL, United States  
Rosen, Arthur L., Cook County, IL, United States  
Sehgal, Hansa, Cook County, IL, United States

PA Northfield Laboratories, Inc, Evanston, IL, United States (U.S.  
corporation)

PI US 6133425 20001017

AI US 1993-31563 19930315 (8)

RLI Continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, now  
patented, Pat. No. US 5194590 which is a continuation of Ser. No. US  
1989-315130, filed on 23 Feb 1989, now abandoned which is a continuation  
of Ser. No. US 1986-876689, filed on 20 Jun 1986, now patented, Pat. No.  
US 4826811

DT Utility

FS Granted

EXNAM Primary Examiner: Sayala, Chhaya D.

LREP McDonnell Boehnen Hulbert & Berghoff, Sarussi, Steven J.

CLMN Number of Claims: 1

ECL Exemplary Claim: 1

DRWN 14 Drawing Figure(s); 10 Drawing Page(s)

LN.CNT 885

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute  
which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its use and a process for preparing  
said acellular **red blood cell** substitute.

L14 ANSWER 6 OF 10 USPATFULL on STN

AN 1998:48563 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Flossmoor, IL, United States  
De Woskin, Richard E., Mount Prospect, IL, United States  
Moss, Gerald S., Highland Park, IL, United States  
Gould, Steven A., Highland Park, IL, United States  
Rosen, Arthur L., Wilmette, IL, United States  
Sehgal, Hansa, Flossmoor, IL, United States

PA Northfield Laboratories, Inc., Evanston, IL, United States (U.S.  
corporation)

PI US 5747649 19980505

AI US 1995-484942 19950607 (8)

RLI Continuation of Ser. No. US 1993-31563, filed on 15 Mar 1993 which is a  
continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, now  
patented, Pat. No. US 5194590 which is a continuation of Ser. No. US  
1989-315130, filed on 23 Feb 1989, now abandoned which is a continuation  
of Ser. No. US 1986-876689, filed on 20 Jun 1986, now patented, Pat. No.  
US 4826811

DT Utility

FS Granted

EXNAM Primary Examiner: Sayala, Chhaya D.  
LREP McDonnell Boehnen Hulbert & Berghoff  
CLMN Number of Claims: 15  
ECL Exemplary Claim: 1  
DRWN 14 Drawing Figure(s); 10 Drawing Page(s)  
LN.CNT 937

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute  
which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its use and a process for preparing  
said acellular **red blood cell** substitute.

L14 ANSWER 7 OF 10 USPATFULL on STN

AN 95:99127 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Flossmoor, IL, United States

De Woskin, Richard E., Mount Prospect, IL, United States

Moss, Gerald S., Highland Park, IL, United States

Gould, Steven A., Highland Park, IL, United States

Rosen, Arthur L., Wilmette, IL, United States

Sehgal, Hansa, Flossmoor, IL, United States

PA Northfield Laboratories, Inc., Evanston, IL, United States (U.S.  
corporation)

PI US 5464814 19951107

AI US 1994-203505 19940228 (8)

DCD 20060502

RLI Continuation of Ser. No. US 1992-896734, filed on 9 Jun 1992, now  
abandoned which is a continuation of Ser. No. US 1989-345416, filed on  
28 Apr 1989, now abandoned which is a continuation-in-part of Ser. No.  
US 1986-876689, filed on 20 Jun 1986, now patented, Pat. No. US 4826811

DT Utility

FS Granted

EXNAM Primary Examiner: Low, Christopher S. F.

LREP Banner & Allegretti, Ltd.

CLMN Number of Claims: 1

ECL Exemplary Claim: 1

DRWN 14 Drawing Figure(s); 10 Drawing Page(s)

LN.CNT 1135

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is disclosed for the preparation of an essentially  
**tetramer-free**, essentially **stroma-**  
**free**, cross-linked, **polymerized**, pyridoxylated  
**hemoglobin** which comprises separating **red**  
**blood cell** stroma from blood by means of heat  
**treating** step to remove stromal contaminants and filtration or  
centrifugation or both, pyridoxylating, **polymerizing**, and  
removing essentially all of the remaining unmodified tetramer.

L14 ANSWER 8 OF 10 USPATFULL on STN

AN 93:20685 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Cook County, IL, United States

De Woskin, Richard E., Cook County, IL, United States

Moss, Gerald S., Lake County, IL, United States

Gould, Steven A., Lake County, IL, United States

Rosen, Arthur L., Cook County, IL, United States

Sehgal, Hansa, Cook County, IL, United States

PA Northfield Laboratories, Inc., Evanston, IL, United States (U.S.  
corporation)

PI US 5194590 19930316

AI US 1990-616727 19901121 (7)

DCD 20060502

RLI Continuation of Ser. No. US 1989-315130, filed on 23 Feb 1989, now



abandoned which is a continuation of Ser. No. US 1989-876689, filed on  
20 Jun 1989, now patented, Pat. No. US 4826811

DT Utility  
FS Granted  
EXNAM Primary Examiner: Stone, Jacqueline  
LREP Allegretti & Witcoff, Ltd.  
CLMN Number of Claims: 1  
ECL Exemplary Claim: 1  
DRWN 14 Drawing Figure(s); 10 Drawing Page(s)  
LN.CNT 855

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute  
which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its uses and a process for  
preparing said acellular **red blood cell**  
substitute.

L14 ANSWER 9 OF 10 USPATFULL on STN

AN 89:34363 USPATFULL  
TI Acellular **red blood cell** substitute  
IN Sehgal, Lakshman R., Cook County, IL, United States  
De Woskin, Richard E., Cook County, IL, United States  
Moss, Gerald S., Lake County, IL, United States  
Gould, Steven A., Lake County, IL, United States  
Rosen, Arthur L., Cook County, IL, United States  
Sehgal, Hansa, Cook County, IL, United States  
PA Northfield Laboratories, Inc., Evanston, IL, United States (U.S.  
corporation)  
PI US 4826811 19890502  
AI US 1986-876689 19860620 (6)  
DT Utility  
FS Granted  
EXNAM Primary Examiner: Brown, Johnnie R.; Assistant Examiner: Stone,  
Jacqueline M.  
LREP Allegretti & Witcoff, Ltd.  
CLMN Number of Claims: 38  
ECL Exemplary Claim: 1,14  
DRWN 11 Drawing Figure(s); 10 Drawing Page(s)  
LN.CNT 1021

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute  
which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its use and a process for preparing  
said acellular **red blood cell** substitute.

L14 ANSWER 10 OF 10 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN

AN 2004-304610 [28] WPIDS  
DNC C2004-115725  
TI **Treatment** of mammal suffering from life threatening level of  
**red blood cell hemoglobin** as result  
of **blood loss**, comprises administration of  
**polymerized hemoglobin** solution to mammal.  
DC B04  
IN DEWOSKIN, R E; DOUBLEDAY, M D; GOULD, S A; HIDES, G A  
PA (NORT-N) NORTHFIELD LAB  
CYC 106  
PI US 2004067876 A1 20040408 (200428)\* 15  
WO 2004037279 A1 20040506 (200430) EN  
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS  
LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW  
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK

DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR  
 KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH  
 PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC  
 VN YU ZA ZM ZW

AU 2003272827 A1 20040513 (200468)

NO 2005001390 A 20050530 (200545)

EP 1553968 A1 20050720 (200547) EN

R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV  
 MC MK NL PT RO SE SI SK TR

JP 2006502231 W 20060119 (200607) 28

ADT US 2004067876 A1 Provisional US 2002-415935P 20021003, US 2003-678927  
 20031003; WO 2004037279 A1 WO 2003-US31377 20031003; AU 2003272827 A1 AU  
 2003-272827 20031003; NO 2005001390 A WO 2003-US31377 20031003, NO  
 2005-1390 20050316; EP 1553968 A1 EP 2003-755029 20031003, WO 2003-US31377  
 20031003; JP 2006502231 W WO 2003-US31377 20031003, JP 2004-546786  
 20031003

FDT AU 2003272827 A1 Based on WO 2004037279; EP 1553968 A1 Based on WO  
 2004037279; JP 2006502231 W Based on WO 2004037279

PRAI US 2002-415935P 20021003; US 2003-678927 20031003

AB US2004067876 A UPAB: 20040429

NOVELTY - **Treatment** of a mammal suffering from a life  
 threatening level of **red blood cell**  
**hemoglobin (RBC Hb)** as the result of  
**blood loss**, comprises administering a  
**polymerized hemoglobin** solution to the mammal.

ACTIVITY - Antianemic; Vasotropic. The dose of PolyHeme (RTM)  
 received by 171 patients was 50-100 g. The maximum rate of infusion was  
 approx. 2 units (1 L) per minute in uncontrolled hemorrhage. The maximum  
 plasma **hemoglobin** concentration was 8 g/dL in a single patient  
 who received 8 units of PolyHeme. The maximum mean plasma  
**hemoglobin** concentration was 5.9 plus or minus 1.1 g/dL in the  
 group of patient who received 20 units of PolyHeme, reflecting the  
 equilibrium between ongoing **blood loss** and  
 replacement. There was no mortality increase as the **RBC**  
**hemoglobin** concentration fell below 3 g/dL.

MECHANISM OF ACTION - None given.

USE - The method is for **treating** a mammal suffering from a  
 life threatening level of **red blood cell**  
**hemoglobin (RBC Hb)** as the result of massive  
**blood loss**. The method **prevents anemia**  
 , irreversible **ischemia**, or hypovolemic **shock** in a  
 patient suffering from massive **blood loss**. (All  
 claimed)

ADVANTAGE - The administration of the **hemoglobin** solution  
 maintains a mean circulating **hemoglobin** level greater than 5  
 g/d, and maintains **arterial pressure** above 60 mmHg.  
 The solution avoids the toxicities associated with vasoconstriction, and  
 renal, pancreatic, gastrointestinal and cardiac dysfunction.

DESCRIPTION OF DRAWING(S) - The figure is a graph depicting the mean  
 ( plus or minus SD) total plasma **hemoglobin** concentration versus  
 dose of **polymerized hemoglobin** solution.

Dwg.1/4

=> d 116 1-6 bib ab

L16 ANSWER 1 OF 6 USPATFULL on STN

AN 2005:75766 USPATFULL

TI Method and apparatus for preparing an acellular **red**  
**blood cell** substitute

IN DeWoskin, Richard E., St. Charles, IL, UNITED STATES  
 Doubleday, Marc D., Cary, IL, UNITED STATES

PA Northfield Laboratories, Inc. (U.S. corporation)

PI US 2005065067 A1 20050324

AI US 2004-993228 A1 20041119 (10)

RLI Continuation of Ser. No. US 2002-274099, filed on 17 Oct 2002, ABANDONED  
Continuation of Ser. No. US 1999-155419, filed on 10 May 1999, GRANTED,  
Pat. No. US 6498141 A 371 of International Ser. No. WO 1997-US5088,  
filed on 27 Mar 1997, PENDING

PRAI US 1996-14389P 19960328 (60)

DT Utility

FS APPLICATION

LREP MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP, 300 S. WACKER DRIVE, 32ND  
FLOOR, CHICAGO, IL, 60606

CLMN Number of Claims: 17

ECL Exemplary Claim: 1

DRWN 6 Drawing Page(s)

LN.CNT 763

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is disclosed for the preparation of an essentially  
**tetramer-free**, substantially **stroma-**  
**free**, **polymerized**, pyridoxylated **hemoglobin**.  
Also disclosed is an essentially **tetramer-free**,  
substantially **stroma-free**, **polymerized**,  
pyridoxylated **hemoglobin** product capable of being infused into  
human patients in an amount of up to about 5 liters.

L16 ANSWER 2 OF 6 USPATFULL on STN

AN 2004:88900 USPATFULL

TI Method for **treating** patients with massive **blood**  
**loss**

IN Gould, Steven A., Highland Park, IL, UNITED STATES  
DeWoskin, Richard E., St. Charles, IL, UNITED STATES  
Doubleday, Marc D., Cary, IL, UNITED STATES  
Hides, George A., Chicago, IL, UNITED STATES

PA Northfield Laboratories, Inc., Evanston, IL (U.S. corporation)

PI US 2004067876 A1 20040408

AI US 2003-678927 A1 20031003 (10)

PRAI US 2002-415935P 20021003 (60)

DT Utility

FS APPLICATION

LREP MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE  
3200, CHICAGO, IL, 60606

CLMN Number of Claims: 47

ECL Exemplary Claim: 1

DRWN 4 Drawing Page(s)

LN.CNT 1013

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods for **treating** a mammal suffering from massive  
**blood loss** comprising administering to the mammal a  
**polymerized hemoglobin** solution.

L16 ANSWER 3 OF 6 USPATFULL on STN

AN 2003:271443 USPATFULL

TI Method and apparatus for preparing an acellular read blood cell  
substitute

IN DeWoskin, Richard E., St. Charles, IL, UNITED STATES  
Doubleday, Marc D., Cary, IL, UNITED STATES

PA Northfield Laboratories, Inc. (U.S. corporation)

PI US 2003191050 A1 20031009

AI US 2002-274099 A1 20021017 (10)

RLI Continuation of Ser. No. US 1999-155419, filed on 10 May 1999, GRANTED,  
Pat. No. US 6498141 A 371 of International Ser. No. WO 1997-US5088,  
filed on 27 Mar 1997, PENDING

PRAI US 1996-14389P 19960328 (60)

DT Utility

FS APPLICATION

LREP Steven J. Sarussi, McDonnell Boehnen Hulbert & Berghoff, 32nd Floor, 300  
S. Wacker Drive, Chicago, IL, 60606

CLMN Number of Claims: 17

ECL Exemplary Claim: 1

DRWN 6 Drawing Page(s)

LN.CNT 761

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is disclosed for the preparation of an essentially **tetramer-free**, substantially **stroma-free**, **polymerized**, pyridoxylated hemoglobin. Also disclosed is an essentially **tetramer-free**, substantially **stroma-free**, **polymerized**, pyridoxylated hemoglobin product capable of being infused into human patients in an amount of up to about 5 liters.

L16 ANSWER 4 OF 6 USPATFULL on STN

AN 2003:188694 USPATFULL

TI Acellular red blood cell substitute

IN Sehgal, Lakshman R., Flossmoor, IL, UNITED STATES

DeWoskin, Richard E., Mount Prospect, IL, UNITED STATES

Moss, Gerald S., Highland Park, IL, UNITED STATES

Gould, Steven A., Highland Park, IL, UNITED STATES

Rosen, Arthur L., Wilmette, IL, UNITED STATES

Sehgal, Hansa, Flossmoor, IL, UNITED STATES

PA Northfield Laboratories, Inc. (U.S. corporation)

PI US 2003130487 A1 20030710

US 6914127 B2 20050705

AI US 2003-348579 A1 20030121 (10)

RLI Continuation of Ser. No. US 2001-995203, filed on 27 Nov 2001, GRANTED, Pat. No. US 6552173 Continuation of Ser. No. US 2000-638471, filed on 14 Aug 2000, GRANTED, Pat. No. US 6323320 Continuation of Ser. No. US 1993-31563, filed on 15 Mar 1993, GRANTED, Pat. No. US 6133425 Continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, GRANTED, Pat. No. US 5194590 Continuation of Ser. No. US 1989-315130, filed on 23 Feb 1989, ABANDONED Continuation of Ser. No. US 1986-876689, filed on 20 Jun 1986, GRANTED, Pat. No. US 4826811

DT Utility

FS APPLICATION

LREP Steven J. Sarussi, McDonnell Boehnen Hulbert & Berghoff, 32nd Floor, 300 S. Wacker Drive, Chicago, IL, 60606

CLMN Number of Claims: 1

ECL Exemplary Claim: 40

DRWN 10 Drawing Page(s)

LN.CNT 898

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular red blood cell substitute which comprises an essentially **tetramer-free**, substantially **stroma-free**, cross-linked, **polymerized**, pyridoxylated hemoglobin and a nontoxic, pharmaceutically acceptable carrier, its use and a process for preparing said acellular red blood cell substitute.

L16 ANSWER 5 OF 6 USPATFULL on STN

AN 2002:120018 USPATFULL

TI Acellular red blood cell substitute

IN Sehgal, Lakshman R., Flossmoor, IL, UNITED STATES

DeWoskin, Richard E., Mount Prospect, IL, UNITED STATES

Moss, Gerald S., Highland Park, IL, UNITED STATES

Gould, Steven A., Highland Park, IL, UNITED STATES

Rosen, Arthur L., Wilmette, IL, UNITED STATES

Sehgal, Hansa, Flossmoor, IL, UNITED STATES

PA Northfield Laboratories, Inc. (U.S. corporation)

PI US 2002062007 A1 20020523

US 6552173 B2 20030422

AI US 2001-995203 A1 20011127 (9)

RLI Continuation of Ser. No. US 2000-638471, filed on 14 Aug 2000, PATENTED Continuation of Ser. No. US 1993-31563, filed on 15 Mar 1993, PATENTED Continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, PATENTED

Continuation of Ser. No. US 1989-315130, filed on 23 Feb 1989, ABANDONED  
Continuation of Ser. No. US 1986-876689, filed on 20 Jun 1986, PATENTED

DT Utility  
FS APPLICATION  
LREP Steven J. Sarussi, McDonnell Boehnen Hulbert & Berghoff, 32nd Floor, 300  
S. Wacker Drive, Chicago, IL, 60606  
CLMN Number of Claims: 1  
ECL Exemplary Claim: 40  
DRWN 10 Drawing Page(s)  
LN.CNT 899

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An a cellular **red blood cell** substitute  
which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its use and a process for preparing  
said a cellular **red blood cell** substitute.

L16 ANSWER 6 OF 6 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN

AN 2004-304610 [28] WPIDS

DNC C2004-115725

TI **Treatment** of mammal suffering from life threatening level of  
**red blood cell hemoglobin** as result  
of **blood loss**, comprises administration of  
**polymerized hemoglobin** solution to mammal.

DC B04

IN DEWOSKIN, R E; DOUBLEDAY, M D; GOULD, S A; HIDES, G A

PA (NORT-N) NORTHFIELD LAB

CYC 106

PI US 2004067876 A1 20040408 (200428)\* 15

WO 2004037279 A1 20040506 (200430) EN

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS  
LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK  
DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR  
KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH  
PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC  
VN YU ZA ZM ZW

AU 2003272827 A1 20040513 (200468)

NO 2005001390 A 20050530 (200545)

EP 1553968 A1 20050720 (200547) EN

R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV  
MC MK NL PT RO SE SI SK TR

JP 2006502231 W 20060119 (200607) 28

ADT US 2004067876 A1 Provisional US 2002-415935P 20021003, US 2003-678927  
20031003; WO 2004037279 A1 WO 2003-US31377 20031003; AU 2003272827 A1 AU  
2003-272827 20031003; NO 2005001390 A WO 2003-US31377 20031003, NO  
2005-1390 20050316; EP 1553968 A1 EP 2003-755029 20031003, WO 2003-US31377  
20031003; JP 2006502231 W WO 2003-US31377 20031003, JP 2004-546786  
20031003

FDT AU 2003272827 A1 Based on WO 2004037279; EP 1553968 A1 Based on WO  
2004037279; JP 2006502231 W Based on WO 2004037279

PRAI US 2002-415935P 20021003; US 2003-678927 20031003

AB US2004067876 A UPAB: 20040429

NOVELTY - **Treatment** of a mammal suffering from a life  
threatening level of **red blood cell**  
**hemoglobin (RBC Hb)** as the result of  
**blood loss**, comprises administering a  
**polymerized hemoglobin** solution to the mammal.

ACTIVITY - Antianemic; Vasotropic. The dose of PolyHeme (RTM)  
received by 171 patients was 50-100 g. The maximum rate of infusion was  
approx. 2 units (1 L) per minute in uncontrolled hemorrhage. The maximum  
plasma **hemoglobin** concentration was 8 g/dL in a single patient  
who received 8 units of PolyHeme. The maximum mean plasma  
**hemoglobin** concentration was 5.9 plus or minus 1.1 g/dL in the

group of patient who received 20 units of PolyHeme, reflecting the equilibrium between ongoing **blood loss** and replacement. There was no mortality increase as the **RBC hemoglobin** concentration fell below 3 g/dL.

MECHANISM OF ACTION - None given.

USE - The method is for **treating** a mammal suffering from a life threatening level of **red blood cell hemoglobin (RBC Hb)** as the result of massive **blood loss**. The method **prevents anemia**, irreversible **ischemia**, or hypovolemic **shock** in a patient suffering from massive **blood loss**. (All claimed)

ADVANTAGE - The administration of the **hemoglobin** solution maintains a mean circulating **hemoglobin** level greater than 5 g/d, and maintains **arterial pressure** above 60 mmHg. The solution avoids the toxicities associated with vasoconstriction, and renal, pancreatic, gastrointestinal and cardiac dysfunction.

DESCRIPTION OF DRAWING(S) - The figure is a graph depicting the mean (plus or minus SD) total plasma **hemoglobin** concentration versus dose of **polymerized hemoglobin** solution.  
Dwg.1/4

=> d 118 1-5 bib ab

L18 ANSWER 1 OF 5 USPATFULL on STN

AN 2005:75766 USPATFULL

TI Method and apparatus for preparing an acellular **red blood cell** substitute

IN DeWoskin, Richard E., St. Charles, IL, UNITED STATES  
Doubleday, Marc D., Cary, IL, UNITED STATES

PA Northfield Laboratories, Inc. (U.S. corporation)

PI US 2005065067 A1 20050324

AI US 2004-993228 A1 20041119 (10)

RLI Continuation of Ser. No. US 2002-274099, filed on 17 Oct 2002, ABANDONED  
Continuation of Ser. No. US 1999-155419, filed on 10 May 1999, GRANTED,  
Pat. No. US 6498141 A 371 of International Ser. No. WO 1997-US5088,  
filed on 27 Mar 1997, PENDING

PRAI US 1996-14389P 19960328 (60)

DT Utility

FS APPLICATION

LREP MCDONNELL BOEHNNEN HULBERT & BERGHOFF LLP, 300 S. WACKER DRIVE, 32ND  
FLOOR, CHICAGO, IL, 60606

CLMN Number of Claims: 17

ECL Exemplary Claim: 1

DRWN 6 Drawing Page(s)

LN.CNT 763

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is disclosed for the preparation of an essentially **tetramer-free**, substantially **stroma-free**, **polymerized**, pyridoxylated **hemoglobin**. Also disclosed is an essentially **tetramer-free**, substantially **stroma-free**, **polymerized**, pyridoxylated **hemoglobin** product capable of being infused into human patients in an amount of up to about 5 liters.

L18 ANSWER 2 OF 5 USPATFULL on STN

AN 2004:88900 USPATFULL

TI Method for **treating** patients with massive **blood loss**

IN Gould, Steven A., Highland Park, IL, UNITED STATES  
DeWoskin, Richard E., St. Charles, IL, UNITED STATES  
Doubleday, Marc D., Cary, IL, UNITED STATES

Hides, George A., Chicago, IL, UNITED STATES  
PA Northfield Laboratories, Inc., Evanston, IL (U.S. corporation)

PI US 2004067876 A1 20040408  
AI US 2003-678927 A1 20031003 (10)  
PRAI US 2002-415935P 20021003 (60)  
DT Utility  
FS APPLICATION  
LREP MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE  
3200, CHICAGO, IL, 60606  
CLMN Number of Claims: 47  
ECL Exemplary Claim: 1  
DRWN 4 Drawing Page(s)  
LN.CNT 1013

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods for **treating** a mammal suffering from massive  
**blood loss** comprising administering to the mammal a  
**polymerized hemoglobin** solution.

L18 ANSWER 3 OF 5 USPATFULL on STN

AN 2003:271443 USPATFULL

TI Method and apparatus for preparing an acellular read blood cell  
substitute

IN DeWoskin, Richard E., St. Charles, IL, UNITED STATES  
**Doubleday, Marc D.**, Cary, IL, UNITED STATES

PA Northfield Laboratories, Inc. (U.S. corporation)

PI US 2003191050 A1 20031009

AI US 2002-274099 A1 20021017 (10)

RLI Continuation of Ser. No. US 1999-155419, filed on 10 May 1999, GRANTED,  
Pat. No. US 6498141 A 371 of International Ser. No. WO 1997-US5088,  
filed on 27 Mar 1997, PENDING

PRAI US 1996-14389P 19960328 (60)

DT Utility

FS APPLICATION

LREP Steven J. Sarussi, McDonnell Boehnen Hulbert & Berghoff, 32nd Floor, 300  
S. Wacker Drive, Chicago, IL, 60606

CLMN Number of Claims: 17

ECL Exemplary Claim: 1

DRWN 6 Drawing Page(s)

LN.CNT 761

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is disclosed for the preparation of an essentially  
**tetramer-free**, substantially **stroma-**  
**free**, **polymerized**, pyridoxylated **hemoglobin**.  
Also disclosed is an essentially **tetramer-free**,  
substantially **stroma-free**, **polymerized**,  
pyridoxylated **hemoglobin** product capable of being infused into  
human patients in an amount of up to about 5 liters.

L18 ANSWER 4 OF 5 USPATFULL on STN

AN 2002:42979 USPATFULL

TI METHOD AND APPARATUS FOR PREPARING AN ACELLULAR **RED**  
**BLOOD CELL** SUBSTITUTE

IN DE WOSKIN, RICHARD E., ST. CHARLES, IL, UNITED STATES  
**DOUBLEDAY, MARC D.**, CARY, IL, UNITED STATES

PI US 2002025343 A1 20020228

US 6498141 B2 20021224

AI US 1999-155419 A1 19990510 (9)  
WO 1997-US5088 19970327

DT Utility

FS APPLICATION

LREP MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE  
3200, CHICAGO, IL, 60606

CLMN Number of Claims: 20

ECL Exemplary Claim: 1

DRWN 6 Drawing Page(s)

LN.CNT 777

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is disclosed for the preparation of an essentially tetramerfree, substantially stromafree, **polymerized**, pyridoxylated **hemoglobin**. Also disclosed is an essentially tetramerfree, substantially stromafree, **polymerized**, pyridoxylated **hemoglobin** product capable of being infused into human patients in an amount of up to about 5 liters.

L18 ANSWER 5 OF 5 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN

AN 2004-304610 [28] WPIDS

DNC C2004-115725

TI **Treatment** of mammal suffering from life threatening level of **red blood cell hemoglobin** as result of **blood loss**, comprises administration of **polymerized hemoglobin** solution to mammal.

DC B04

IN DEWOSKIN, R E; **DOUBLEDAY, M D**; GOULD, S A; HIDES, G A

PA (NORT-N) NORTHFIELD LAB

CYC 106

PI US 2004067876 A1 20040408 (200428)\* 15

WO 2004037279 A1 20040506 (200430) EN

RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS

LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK

DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR

KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH

PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC

VN YU ZA ZM ZW

AU 2003272827 A1 20040513 (200468)

NO 2005001390 A 20050530 (200545)

EP 1553968 A1 20050720 (200547) EN

R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV

MC MK NL PT RO SE SI SK TR

JP 2006502231 W 20060119 (200607) 28

ADT US 2004067876 A1 Provisional US 2002-415935P 20021003, US 2003-678927

20031003; WO 2004037279 A1 WO 2003-US31377 20031003; AU 2003272827 A1 AU

2003-272827 20031003; NO 2005001390 A WO 2003-US31377 20031003, NO

2005-1390 20050316; EP 1553968 A1 EP 2003-755029 20031003, WO 2003-US31377

20031003; JP 2006502231 W WO 2003-US31377 20031003, JP 2004-546786

20031003

FDT AU 2003272827 A1 Based on WO 2004037279; EP 1553968 A1 Based on WO

2004037279; JP 2006502231 W Based on WO 2004037279

PRAI US 2002-415935P 20021003; US 2003-678927 20031003

AB US2004067876 A UPAB: 20040429

NOVELTY - **Treatment** of a mammal suffering from a life threatening level of **red blood cell**

**hemoglobin (RBC Hb)** as the result of

**blood loss**, comprises administering a

**polymerized hemoglobin** solution to the mammal.

ACTIVITY - Antianemic; Vasotropic. The dose of PolyHeme (RTM) received by 171 patients was 50-100 g. The maximum rate of infusion was approx. 2 units (1 L) per minute in uncontrolled hemorrhage. The maximum

plasma **hemoglobin** concentration was 8 g/dL in a single patient

who received 8 units of PolyHeme. The maximum mean plasma

**hemoglobin** concentration was 5.9 plus or minus 1.1 g/dL in the

group of patient who received 20 units of PolyHeme, reflecting the

equilibrium between ongoing **blood loss** and

replacement. There was no mortality increase as the **RBC**

**hemoglobin** concentration fell below 3 g/dL.

MECHANISM OF ACTION - None given.

USE - The method is for **treating** a mammal suffering from a life threatening level of **red blood cell**

**hemoglobin (RBC Hb)** as the result of massive

**blood loss**. The method **prevents anemia**

, irreversible **ischemia**, or hypovolemic **shock** in a

patient suffering from massive **blood loss**. (All



claimed)

ADVANTAGE - The administration of the **hemoglobin** solution maintains a mean circulating **hemoglobin** level greater than 5 g/d, and maintains **arterial pressure** above 60 mmHg. The solution avoids the toxicities associated with vasoconstriction, and renal, pancreatic, gastrointestinal and cardiac dysfunction.

DESCRIPTION OF DRAWING(S) - The figure is a graph depicting the mean ( plus or minus SD) total plasma **hemoglobin** concentration versus dose of **polymerized hemoglobin** solution.

Dwg.1/4

=> d his

(FILE 'HOME' ENTERED AT 19:27:35 ON 01 MAR 2006)

FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHDS, EMBASE, USPATFULL, WPIDS'  
ENTERED AT 19:28:15 ON 01 MAR 2006

L1 195015 S (RED BLOOD CELL# OR RBC)  
L2 408738 S (HEMOGLOBIN# OR HB)  
L3 32727 S L1 AND L2  
L4 244 S L3 AND (POLYMER? HEMOGLOBIN)  
L5 88 S L4 AND (ACELLULAR SOLUTION OR TETRAMER FREE OR STROMA FREE)  
L6 88 S L5 AND (POLYMER? OR BLOOD SUBSTITUT? OR PLASMA EXAPND?)  
L7 86 S L6 AND (TREAT? OR THERAPEUT? OR PREVENT? OR AMELIORAT?)  
L8 57 S L7 AND (ISCHEM? OR ANEM? OR BLEED?)  
L9 55 S L8 AND (DISORDER OR SHOCK OR CIRCULATORY COLLAPSE OR BLOOD L  
L10 40 S L9 AND (BLOOD PRESSURE# OR ARTERIAL PRESSURE#)  
L11 20 S L10 AND (POLYMERIZED HEMOGLOBIN SOLUTION)  
L12 2 S L11 AND (MASSIVE BLOOD LOSS)  
L13 2785 S GOULD, S?/AU  
L14 10 S L10 AND L13  
L15 105 S DEWOSKIN, R?/AU  
L16 6 S L10 AND L15  
L17 48 S DOUBLEDAY, M?/AU  
L18 5 S L10 AND L17  
L19 7 S HIDES, G?/AU  
L20 2 S L10 AND L19  
L21 4 S L14 AND L16  
L22 2 S L18 AND L20  
L23 2 S L21 AND L22

=> dup rem l11

PROCESSING COMPLETED FOR L11

L24 19 DUP REM L11 (1 DUPLICATE REMOVED)

=> d l24 1-19 bib ab

L24 ANSWER 1 OF 19 USPATFULL on STN  
AN 2005:75766 USPATFULL  
TI Method and apparatus for preparing an acellular **red blood cell** substitute  
IN DeWoskin, Richard E., St. Charles, IL, UNITED STATES  
Doubleday, Marc D., Cary, IL, UNITED STATES  
PA Northfield Laboratories, Inc. (U.S. corporation)  
PI US 2005065067 A1 20050324  
AI US 2004-993228 A1 20041119 (10)  
RLI Continuation of Ser. No. US 2002-274099, filed on 17 Oct 2002, ABANDONED  
Continuation of Ser. No. US 1999-155419, filed on 10 May 1999, GRANTED,  
Pat. No. US 6498141 A 371 of International Ser. No. WO 1997-US5088,  
filed on 27 Mar 1997, PENDING  
PRAI US 1996-14389P 19960328 (60)  
DT Utility  
FS APPLICATION  
LREP MCDONNELL BOEHNNEN HULBERT & BERGHOFF LLP, 300 S. WACKER DRIVE, 32ND

FLOOR, CHICAGO, IL, 60606  
CLMN Number of Claims: 17  
ECL Exemplary Claim: 1  
DRWN 6 Drawing Page(s)  
LN.CNT 763

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is disclosed for the preparation of an essentially **tetramer-free**, substantially **stroma-free**, **polymerized**, pyridoxylated **hemoglobin**. Also disclosed is an essentially **tetramer-free**, substantially **stroma-free**, **polymerized**, pyridoxylated **hemoglobin** product capable of being infused into human patients in an amount of up to about 5 liters.

L24 ANSWER 2 OF 19 USPATFULL on STN DUPLICATE 1

AN 2004:88900 USPATFULL

TI Method for **treating** patients with massive **blood loss**

IN Gould, Steven A., Highland Park, IL, UNITED STATES  
DeWoskin, Richard E., St. Charles, IL, UNITED STATES  
Doubleday, Marc D., Cary, IL, UNITED STATES  
Hides, George A., Chicago, IL, UNITED STATES

PA Northfield Laboratories, Inc., Evanston, IL (U.S. corporation)

PI US 2004067876 A1 20040408

AI US 2003-678927 A1 20031003 (10)

PRAI US 2002-415935P 20021003 (60)

DT Utility

FS APPLICATION

LREP MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE 3200, CHICAGO, IL, 60606

CLMN Number of Claims: 47

ECL Exemplary Claim: 1

DRWN 4 Drawing Page(s)

LN.CNT 1013

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Methods for **treating** a mammal suffering from massive **blood loss** comprising administering to the mammal a **polymerized hemoglobin solution**.

L24 ANSWER 3 OF 19 USPATFULL on STN

AN 2004:327944 USPATFULL

TI Reduced side-effect **hemoglobin** compositions

IN Looker, Douglas L., Fort Lupton, CO, UNITED STATES  
Apostol, Izydor Z., Boulder, CO, UNITED STATES  
Brucker, Eric A., Evergreen, CO, UNITED STATES  
Doyle, Michael P., Boulder, CO, UNITED STATES  
Foster, David L., Lafayette, CO, UNITED STATES  
Glascock, Christopher B., Louisville, CO, UNITED STATES  
Hartman, James C., Boulder, CO, UNITED STATES  
Lee, Geoffrey F., Boulder, CO, UNITED STATES  
Lemon, Douglas D., Louisville, CO, UNITED STATES  
Moore, Edwin G., Boulder, CO, UNITED STATES  
Richards, Jane P., Longmont, CO, UNITED STATES  
Schick, Michael R., Louisville, CO, UNITED STATES  
Trimble, Stephen P., Boulder, CO, UNITED STATES  
Pereira, David, Apex, NC, UNITED STATES  
Hai, Ton-That, Mundelein, IL, UNITED STATES  
Burhop, Kenneth E., Longmont, CO, UNITED STATES

PA Baxter International Inc. (U.S. corporation)

Baxter Healthcare S.A. (U.S. corporation)

PI US 2004259769 A1 20041223

AI US 2003-747580 A1 20031229 (10)

RLI Continuation of Ser. No. US 2000-709914, filed on 10 Nov 2000, GRANTED, Pat. No. US 6670323

PRAI US 1999-165289P 19991112 (60)

DT Utility  
FS APPLICATION  
LREP SENNIGER POWERS LEAVITT AND ROEDEL, ONE METROPOLITAN SQUARE, 16TH FLOOR,  
ST LOUIS, MO, 63102  
CLMN Number of Claims: 53  
ECL Exemplary Claim: 1  
DRWN 18 Drawing Page(s)  
LN.CNT 4058

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to novel **hemoglobin** compositions,  
particularly novel recombinant mutant **hemoglobin** compositions,  
which eliminate or substantially reduce 1) the creation of heart  
lesions, 2) gastrointestinal discomfort, 3) pressor effects, and 4)  
endotoxin hypersensitivity associated with the administration of  
extracellular **hemoglobin** compositions in various  
**therapeutic** applications. Applications described include  
**treatments** for **anemia**, head injury, hemorrhage or  
hypovolemia, **ischemia**, cachexia, sickle cell crisis and  
stroke; enhancing cancer **treatments**; stimulating  
hematopoiesis; improving repair of physically damaged tissues;  
alleviating cardiogenic **shock**; and **shock**  
resuscitation.

L24 ANSWER 4 OF 19 USPATFULL on STN

AN 2003:271443 USPATFULL

TI Method and apparatus for preparing an acellular read blood cell  
substitute

IN DeWoskin, Richard E., St. Charles, IL, UNITED STATES

Doubleday, Marc D., Cary, IL, UNITED STATES

PA Northfield Laboratories, Inc. (U.S. corporation)

PI US 2003191050 A1 20031009

AI US 2002-274099 A1 20021017 (10)

RLI Continuation of Ser. No. US 1999-155419, filed on 10 May 1999, GRANTED,  
Pat. No. US 6498141 A 371 of International Ser. No. WO 1997-US5088,  
filed on 27 Mar 1997, PENDING

PRAI US 1996-14389P 19960328 (60)

DT Utility

FS APPLICATION

LREP Steven J. Sarussi, McDonnell Boehnen Hulbert & Berghoff, 32nd Floor, 300  
S. Wacker Drive, Chicago, IL, 60606

CLMN Number of Claims: 17

ECL Exemplary Claim: 1

DRWN 6 Drawing Page(s)

LN.CNT 761

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is disclosed for the preparation of an essentially  
**tetramer-free**, substantially **stroma-**  
**free**, **polymerized**, pyridoxylated **hemoglobin**.  
Also disclosed is an essentially **tetramer-free**,  
substantially **stroma-free**, **polymerized**,  
pyridoxylated **hemoglobin** product capable of being infused into  
human patients in an amount of up to about 5 liters.

L24 ANSWER 5 OF 19 USPATFULL on STN

AN 2003:226278 USPATFULL

TI Increasing function of organs having reduced **red blood**  
**cell** flow

IN Jacobs, Edward E., JR., Lexington, MA, UNITED STATES

Rausch, Carl W., Medford, MA, UNITED STATES

PA Biopure Corporation, Cambridge, MA, UNITED STATES, 02141 (U.S.  
corporation)

PI US 2003158091 A1 20030821

AI US 2003-351977 A1 20030124 (10)

RLI Continuation of Ser. No. US 2000-749504, filed on 26 Dec 2000, GRANTED,  
Pat. No. US 6541449 Continuation of Ser. No. US 1999-471779, filed on 23

Dec 1999, ABANDONED Continuation of Ser. No. US 1998-215714, filed on 18  
Dec 1998, ABANDONED Continuation of Ser. No. US 1995-409337, filed on 23  
Mar 1995, GRANTED, Pat. No. US 5854209

DT Utility  
FS APPLICATION  
LREP HAMILTON, BROOK, SMITH & REYNOLDS, P.C., 530 VIRGINIA ROAD, P.O. BOX  
9133, CONCORD, MA, 01742-9133  
CLMN Number of Claims: 24  
ECL Exemplary Claim: 1  
DRWN 3 Drawing Page(s)  
LN.CNT 1279

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method of **therapeutically**,  
or prophylactically, **treating** a vertebrate to increase tissue  
oxygenation, or maintain tissue oxygenation, in tissue of a vertebrate  
wherein the tissue has a reduced **red blood**  
**cell** flow, and wherein the vertebrate has a normovolemic blood  
volume and at least a normal systemic vascular resistance. The method  
comprises introducing into the circulatory system of the vertebrate at  
least one dose of **hemoglobin**.

L24 ANSWER 6 OF 19 USPATFULL on STN

AN 2003:188694 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Flossmoor, IL, UNITED STATES  
DeWoskin, Richard E., Mount Prospect, IL, UNITED STATES  
Moss, Gerald S., Highland Park, IL, UNITED STATES  
Gould, Steven A., Highland Park, IL, UNITED STATES  
Rosen, Arthur L., Wilmette, IL, UNITED STATES  
Sehgal, Hansa, Flossmoor, IL, UNITED STATES

PA Northfield Laboratories, Inc. (U.S. corporation)

PI US 2003130487 A1 20030710

US 6914127 B2 20050705

AI US 2003-348579 A1 20030121 (10)

RLI Continuation of Ser. No. US 2001-995203, filed on 27 Nov 2001, GRANTED,  
Pat. No. US 6552173 Continuation of Ser. No. US 2000-638471, filed on 14  
Aug 2000, GRANTED, Pat. No. US 6323320 Continuation of Ser. No. US  
1993-31563, filed on 15 Mar 1993, GRANTED, Pat. No. US 6133425  
Continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, GRANTED,  
Pat. No. US 5194590 Continuation of Ser. No. US 1989-315130, filed on 23  
Feb 1989, ABANDONED Continuation of Ser. No. US 1986-876689, filed on 20  
Jun 1986, GRANTED, Pat. No. US 4826811

DT Utility

FS APPLICATION

LREP Steven J. Sarussi, McDonnell Boehnen Hulbert & Berghoff, 32nd Floor, 300  
S. Wacker Drive, Chicago, IL, 60606

CLMN Number of Claims: 1

ECL Exemplary Claim: 40

DRWN 10 Drawing Page(s)

LN.CNT 898

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute  
which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its use and a process for preparing  
said acellular **red blood cell** substitute.

L24 ANSWER 7 OF 19 USPATFULL on STN

AN 2003:337269 USPATFULL

TI Reduced side-effect **hemoglobin** compositions

IN Looker, Douglas L., Lafayette, CO, United States  
Apostol, Izydor Z., Boulder, CO, United States  
Brucker, Eric A., Evergreen, CO, United States  
Doyle, Michael P., Boulder, CO, United States

Foster, David L., Lafayette, CO, United States  
 Glascock, Christopher B., Louisville, CO, United States  
 Hartman, James C., Boulder, CO, United States  
 Lee, Geoffrey F., Boulder, CO, United States  
 Lemon, Douglas D., Louisville, CO, United States  
 Moore, Edwin G., Boulder, CO, United States  
 Richards, Jane P., Longmont, CO, United States  
 Schick, Michael R., Louisville, CO, United States  
 Trimble, Stephen P., Boulder, CO, United States  
 Pereira, David, Apex, NC, United States  
 Hai, Ton-That, Mundelein, IL, United States  
 Burhop, Kenneth E., Longmont, CO, United States  
 PA Baxter International, Inc., Deerfield, IL, United States (U.S. corporation)  
 Baxter Healthcare S.A., Kanton Zurich, SWITZERLAND (non-U.S. corporation)  
 PI US 6670323 B1 20031230  
 AI US 2000-709914 20001110 (9)  
 RLI Continuation-in-part of Ser. No. US 403208, now patented, Pat. No. US 6455676  
 PRAI US 1999-165289P 19991112 (60)  
 DT Utility  
 FS GRANTED  
 EXNAM Primary Examiner: Carlson, Karen Cochrane  
 LREP Senniger, Powers, Leavitt & Roedel  
 CLMN Number of Claims: 155  
 ECL Exemplary Claim: 1  
 DRWN 18 Drawing Figure(s); 18 Drawing Page(s)  
 LN.CNT 4788  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
 AB The invention relates to novel **hemoglobin** compositions, particularly novel recombinant mutant **hemoglobin** compositions, which eliminate or substantially reduce 1) the creation of heart lesions, 2) gastrointestinal discomfort, 3) pressor effects, and 4) endotoxin hypersensitivity associated with the administration of extracellular **hemoglobin** compositions in various **therapeutic** applications. Applications described include **treatments** for **anemia**, head injury, hemorrhage or hypovolemia, **ischemia**, cachexia, sickle cell crisis and stroke; enhancing cancer **treatments**; stimulating hematopoiesis; improving repair of physically damaged tissues; alleviating cardiogenic **shock**; and **shock** resuscitation.  
 L24 ANSWER 8 OF 19 USPATFULL on STN  
 AN 2003:89372 USPATFULL  
 TI Increasing function of organs having reduced **red blood cell** flow  
 IN Jacobs, Jr., Edward E., Lexington, MA, United States  
 Rausch, Carl W., Medford, MA, United States  
 PA Biopure Corporation, Cambridge, MA, United States (U.S. corporation)  
 PI US 6541449 B1 20030401  
 AI US 2000-749504 20001226 (9)  
 RLI Continuation of Ser. No. US 1999-471779, filed on 23 Dec 1999, now abandoned Continuation of Ser. No. US 1998-215714, filed on 18 Dec 1998, now abandoned Continuation of Ser. No. US 1995-409337, filed on 23 Mar 1995, now patented, Pat. No. US 5854209  
 DT Utility  
 FS GRANTED  
 EXNAM Primary Examiner: Borin, Michael  
 LREP Hamilton, Brook, Smith & Reynolds, P.C.  
 CLMN Number of Claims: 24  
 ECL Exemplary Claim: 1  
 DRWN 3 Drawing Figure(s); 3 Drawing Page(s)  
 LN.CNT 1346

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method of **therapeutically**, or prophylactically, **treating** a vertebrate to increase tissue oxygenation, or maintain tissue oxygenation, in tissue of a vertebrate wherein the tissue has a reduced **red blood cell** flow, and wherein the vertebrate has a normovolemic blood volume and at least a normal systemic vascular resistance. The method comprises introducing into the circulatory system of the vertebrate at least one dose of **hemoglobin**.

L24 ANSWER 9 OF 19 USPATFULL on STN

AN 2002:126694 USPATFULL

TI Increasing function of organs having reduced **red blood cell** flow

IN Jacobs, Edward E., JR., Lexington, MA, UNITED STATES

Rausch, Carl W., Belmont, MA, UNITED STATES

PA Biopure Corporation, Cambridge, MA, UNITED STATES (U.S. corporation)

PI US 2002065211 A1 20020530

AI US 2001-938262 A1 20010823 (9)

RLI Continuation-in-part of Ser. No. US 2000-749504, filed on 26 Dec 2000, PENDING Continuation of Ser. No. US 1999-471779, filed on 23 Dec 1999, ABANDONED Continuation of Ser. No. US 1998-215714, filed on 18 Dec 1998, ABANDONED Continuation of Ser. No. US 1995-409337, filed on 23 Mar 1995, PATENTED

PRAI US 2000-227193P 20000823 (60)

DT Utility

FS APPLICATION

LREP N. Scott Pierce, Esq., HAMILTON, BROOK, SMITH & REYNOLDS, P.C., Two Militia Drive, Lexington, MA, 02421-4799

CLMN Number of Claims: 25

ECL Exemplary Claim: 1

DRWN 5 Drawing Page(s)

LN.CNT 1464

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB At least one dose of **polymerized hemoglobin** is administered a vertebrate to increase tissue oxygenation, or maintain tissue oxygenation, in an organ of a vertebrate wherein the organ has a reduced **red blood cell** flow, and wherein the vertebrate has a normovolemic blood volume and at least a normal systemic vascular resistance. The **hemoglobin** increases function of the organ.

L24 ANSWER 10 OF 19 USPATFULL on STN

AN 2002:120018 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Flossmoor, IL, UNITED STATES

DeWoskin, Richard E., Mount Prospect, IL, UNITED STATES

Moss, Gerald S., Highland Park, IL, UNITED STATES

Gould, Steven A., Highland Park, IL, UNITED STATES

Rosen, Arthur L., Wilmette, IL, UNITED STATES

Sehgal, Hansa, Flossmoor, IL, UNITED STATES

PA Northfield Laboratories, Inc. (U.S. corporation)

PI US 2002062007 A1 20020523

US 6552173 B2 20030422

AI US 2001-995203 A1 20011127 (9)

RLI Continuation of Ser. No. US 2000-638471, filed on 14 Aug 2000, PATENTED  
Continuation of Ser. No. US 1993-31563, filed on 15 Mar 1993, PATENTED  
Continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, PATENTED  
Continuation of Ser. No. US 1989-315130, filed on 23 Feb 1989, ABANDONED  
Continuation of Ser. No. US 1986-876689, filed on 20 Jun 1986, PATENTED

DT Utility

FS APPLICATION

LREP Steven J. Sarussi, McDonnell Boehnen Hulbert & Berghoff, 32nd Floor, 300 S. Wacker Drive, Chicago, IL, 60606

CLMN Number of Claims: 1

ECL Exemplary Claim: 40

DRWN 10 Drawing Page(s)

LN.CNT 899

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An a cellular **red blood cell** substitute which comprises an essentially **tetramer-free**, substantially **stroma-free**, cross-linked, **polymerized**, pyridoxylated **hemoglobin** and a nontoxic, pharmaceutically acceptable carrier, its use and a process for preparing said a cellular **red blood cell** substitute.

L24 ANSWER 11 OF 19 USPATFULL on STN

AN 2002:42979 USPATFULL

TI METHOD AND APPARATUS FOR PREPARING AN ACELLULAR **RED BLOOD CELL** SUBSTITUTE

IN DE WOSKIN, RICHARD E., ST. CHARLES, IL, UNITED STATES  
DOUBLEDAY, MARC D., CARY, IL, UNITED STATES

PI US 2002025343 A1 20020228

US 6498141 B2 20021224

AI US 1999-155419 A1 19990510 (9)

WO 1997-US5088 19970327

DT Utility

FS APPLICATION

LREP MCDONNELL BOEHNEN HULBERT & BERGHOFF, 300 SOUTH WACKER DRIVE, SUITE  
3200, CHICAGO, IL, 60606

CLMN Number of Claims: 20

ECL Exemplary Claim: 1

DRWN 6 Drawing Page(s)

LN.CNT 777

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process is disclosed for the preparation of an essentially tetramerfree, substantially stromafree, **polymerized**, pyridoxylated **hemoglobin**. Also disclosed is an essentially tetramerfree, substantially stromafree, **polymerized**, pyridoxylated **hemoglobin** product capable of being infused into human patients in an amount of up to about 5 liters.

L24 ANSWER 12 OF 19 USPATFULL on STN

AN 2001:215159 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Cook County, IL, United States  
De Woskin, Richard E., Cook County, IL, United States  
Moss, Gerald S., Lake County, IL, United States  
Gould, Steven A., Lake County, IL, United States  
Rosen, Arthur L., Cook County, IL, United States  
Sehgal, Hansa, Cook County, IL, United States

PA Northfield Laboratories, Inc., Evanston, IL, United States (U.S. corporation)

PI US 6323320 B1 20011127

AI US 2000-638471 20000814 (9)

RLI Continuation of Ser. No. US 1993-31563, filed on 15 Mar 1993, now patented, Pat. No. US 6133425 Continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, now patented, Pat. No. US 5194590 Continuation of Ser. No. US 1989-315130, filed on 23 Feb 1989, now abandoned Continuation of Ser. No. US 1986-876689, filed on 20 Jun 1986, now patented, Pat. No. US 4826811

DT Utility

FS GRANTED

EXNAM Primary Examiner: Sayala, Chhaya D.

LREP McDonnell Boehnen Hulbert & Berghoff

CLMN Number of Claims: 13

ECL Exemplary Claim: 1

DRWN 14 Drawing Figure(s); 10 Drawing Page(s)

LN.CNT 923

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute which comprises an essentially **tetramer-free**, substantially **stroma-free**, cross-linked, **polymerized**, pyridoxylated **hemoglobin** and a nontoxic, pharmaceutically acceptable carrier, its use and a process for preparing said acellular **red blood cell** substitute.

L24 ANSWER 13 OF 19 USPATFULL on STN

AN 2000:138510 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Cook County, IL, United States  
De Woskin, Richard E., Cook County, IL, United States  
Moss, Gerald S., Lake County, IL, United States  
Gould, Steven A., Lake County, IL, United States  
Rosen, Arthur L., Cook County, IL, United States  
Sehgal, Hansa, Cook County, IL, United States

PA Northfield Laboratories, Inc, Evanston, IL, United States (U.S. corporation)

PI US 6133425 20001017

AI US 1993-31563 19930315 (8)

RLI Continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, now patented, Pat. No. US 5194590 which is a continuation of Ser. No. US 1989-315130, filed on 23 Feb 1989, now abandoned which is a continuation of Ser. No. US 1986-876689, filed on 20 Jun 1986, now patented, Pat. No. US 4826811

DT Utility

FS Granted

EXNAM Primary Examiner: Sayala, Chhaya D.

LREP McDonnell Boehnen Hulbert & Berghoff, Sarussi, Steven J.

CLMN Number of Claims: 1

ECL Exemplary Claim: 1

DRWN 14 Drawing Figure(s); 10 Drawing Page(s)

LN.CNT 885

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute which comprises an essentially **tetramer-free**, substantially **stroma-free**, cross-linked, **polymerized**, pyridoxylated **hemoglobin** and a nontoxic, pharmaceutically acceptable carrier, its use and a process for preparing said acellular **red blood cell** substitute.

L24 ANSWER 14 OF 19 USPATFULL on STN

AN 1998:162474 USPATFULL

TI Method for oxygenating tissue having reduced **red blood cell** flow

IN Jacobs, Jr., Edward E., Lexington, MA, United States  
Rausch, Carl W., Medford, MA, United States

PA Biopure Corporation, Cambridge, MA, United States (U.S. corporation)

PI US 5854209 19981229

AI US 1995-409337 19950323 (8)

DT Utility

FS Granted

EXNAM Primary Examiner: Tsang, Cecilia J.; Assistant Examiner: Borin, Michael

LREP Hamilton, Brook, Smith & Reynolds, P.C.

CLMN Number of Claims: 32

ECL Exemplary Claim: 1

DRWN 3 Drawing Figure(s); 3 Drawing Page(s)

LN.CNT 1381

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method of **therapeutically**, or prophylactically, **treating** a vertebrate to increase tissue oxygenation, or maintain tissue oxygenation, in tissue of a vertebrate wherein the tissue has a reduced **red blood cell** flow, and wherein the vertebrate has a normovolemic blood volume and at least a normal systemic vascular resistance. The method



comprises introducing into the circulatory system of the vertebrate at least one dose of **hemoglobin**.

L24 ANSWER 15 OF 19 USPATFULL on STN

AN 1998:147565 USPATFULL

TI Method for producing ultrapure stable polmerized **hemoglobin blood-substitute**

IN Rausch, Carl W., Medford, MA, United States  
Gawryl, Maria S., Charlestown, MA, United States  
Houtchens, Robert A., Milford, MA, United States  
Laccetti, Anthony J., North Andover, MA, United States  
Light, William R., Natick, MA, United States

PA Biopure Corporation, Cambridge, MA, United States (U.S. corporation)

PI US 5840852 19981124

AI US 1995-458916 19950602 (8)

RLI Continuation of Ser. No. US 1995-409337, filed on 23 Mar 1995

DT Utility

FS Granted

EXNAM Primary Examiner: Tsang, Cecilia J.; Assistant Examiner: Gupta, Anish

LREP Hamilton, Brook, Smith & Reynolds, P.C.

CLMN Number of Claims: 1

ECL Exemplary Claim: 1

DRWN 3 Drawing Figure(s); 3 Drawing Page(s)

LN.CNT 1137

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a method of **therapeutically**, or prophylactically, **treating** a vertebrate to increase tissue oxygenation, or maintain tissue oxygenation, in tissue of a vertebrate wherein the tissue has a reduced **red blood cell** flow, and wherein the vertebrate has a normovolemic blood volume and at least a normal systemic vascular resistance. The method comprises introducing into the circulatory system of the vertebrate at least one dose of **hemoglobin**.

L24 ANSWER 16 OF 19 USPATFULL on STN

AN 1998:48563 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Flossmoor, IL, United States  
De Woskin, Richard E., Mount Prospect, IL, United States  
Moss, Gerald S., Highland Park, IL, United States  
Gould, Steven A., Highland Park, IL, United States  
Rosen, Arthur L., Wilmette, IL, United States  
Sehgal, Hansa, Flossmoor, IL, United States

PA Norhtfield Laboratories, Inc., Evanston, IL, United States (U.S. corporation)

PI US 5747649 19980505

AI US 1995-484942 19950607 (8)

RLI Continuation of Ser. No. US 1993-31563, filed on 15 Mar 1993 which is a continuation of Ser. No. US 1990-616727, filed on 21 Nov 1990, now patented, Pat. No. US 5194590 which is a continuation of Ser. No. US 1989-315130, filed on 23 Feb 1989, now abandoned which is a continuation of Ser. No. US 1986-876689, filed on 20 Jun 1986, now patented, Pat. No. US 4826811

DT Utility

FS Granted

EXNAM Primary Examiner: Sayala, Chhaya D.

LREP McDonnell Boehnen Hulbert & Berghoff

CLMN Number of Claims: 15

ECL Exemplary Claim: 1

DRWN 14 Drawing Figure(s); 10 Drawing Page(s)

LN.CNT 937

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute which comprises an essentially **tetramer-free**, substantially **stroma-free**, cross-linked,

**polymerized, pyridoxylated hemoglobin** and a nontoxic, pharmaceutically acceptable carrier, its use and a process for preparing said acellular **red blood cell** substitute.

L24 ANSWER 17 OF 19 USPATFULL on STN  
AN 95:99127 USPATFULL  
TI Acellular **red blood cell** substitute  
IN Sehgal, Lakshman R., Flossmoor, IL, United States  
De Woskin, Richard E., Mount Prospect, IL, United States  
Moss, Gerald S., Highland Park, IL, United States  
Gould, Steven A., Highland Park, IL, United States  
Rosen, Arthur L., Wilmette, IL, United States  
Sehgal, Hansa, Flossmoor, IL, United States  
PA Northfield Laboratories, Inc., Evanston, IL, United States (U.S. corporation)  
PI US 5464814 19951107  
AI US 1994-203505 19940228 (8)  
DCD 20060502  
RLI Continuation of Ser. No. US 1992-896734, filed on 9 Jun 1992, now abandoned which is a continuation of Ser. No. US 1989-345416, filed on 28 Apr 1989, now abandoned which is a continuation-in-part of Ser. No. US 1986-876689, filed on 20 Jun 1986, now patented, Pat. No. US 4826811  
DT Utility  
FS Granted  
EXNAM Primary Examiner: Low, Christopher S. F.  
LREP Banner & Allegretti, Ltd.  
CLMN Number of Claims: 1  
ECL Exemplary Claim: 1  
DRWN 14 Drawing Figure(s); 10 Drawing Page(s)  
LN.CNT 1135  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB A process is disclosed for the preparation of an essentially **tetramer-free, essentially stroma-free, cross-linked, polymerized, pyridoxylated hemoglobin** which comprises separating **red blood cell** stroma from blood by means of heat **treating** step to remove stromal contaminants and filtration or centrifugation or both, pyridoxylating, **polymerizing**, and removing essentially all of the remaining unmodified tetramer.

L24 ANSWER 18 OF 19 USPATFULL on STN  
AN 93:20685 USPATFULL  
TI Acellular **red blood cell** substitute  
IN Sehgal, Lakshman R., Cook County, IL, United States  
De Woskin, Richard E., Cook County, IL, United States  
Moss, Gerald S., Lake County, IL, United States  
Gould, Steven A., Lake County, IL, United States  
Rosen, Arthur L., Cook County, IL, United States  
Sehgal, Hansa, Cook County, IL, United States  
PA Northfield Laboratories, Inc., Evanston, IL, United States (U.S. corporation)  
PI US 5194590 19930316  
AI US 1990-616727 19901121 (7)  
DCD 20060502  
RLI Continuation of Ser. No. US 1989-315130, filed on 23 Feb 1989, now abandoned which is a continuation of Ser. No. US 1989-876689, filed on 20 Jun 1989, now patented, Pat. No. US 4826811  
DT Utility  
FS Granted  
EXNAM Primary Examiner: Stone, Jacqueline  
LREP Allegretti & Witcoff, Ltd.  
CLMN Number of Claims: 1  
ECL Exemplary Claim: 1  
DRWN 14 Drawing Figure(s); 10 Drawing Page(s)  
LN.CNT 855

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute  
which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its uses and a process for  
preparing said acellular **red blood cell**  
substitute.

L24 ANSWER 19 OF 19 USPATFULL on STN

AN 89:34363 USPATFULL

TI Acellular **red blood cell** substitute

IN Sehgal, Lakshman R., Cook County, IL, United States  
De Woskin, Richard E., Cook County, IL, United States  
Moss, Gerald S., Lake County, IL, United States  
Gould, Steven A., Lake County, IL, United States  
Rosen, Arthur L., Cook County, IL, United States  
Sehgal, Hansa, Cook County, IL, United States

PA Northfield Laboratories, Inc., Evanston, IL, United States (U.S.  
corporation)

PI US 4826811 19890502

AI US 1986-876689 19860620 (6)

DT Utility

FS Granted

EXNAM Primary Examiner: Brown, Johnnie R.; Assistant Examiner: Stone,  
Jacqueline M.

LREP Allegretti & Witcoff, Ltd.

CLMN Number of Claims: 38

ECL Exemplary Claim: 1,14

DRWN 11 Drawing Figure(s); 10 Drawing Page(s)

LN.CNT 1021

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An acellular **red blood cell** substitute  
which comprises an essentially **tetramer-free**,  
substantially **stroma-free**, cross-linked,  
**polymerized**, pyridoxylated **hemoglobin** and a nontoxic,  
pharmaceutically acceptable carrier, its use and a process for preparing  
said acellular **red blood cell** substitute.

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